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ABSTRACT

Electronic network systems, their components--terminal, microcomputer, or communications word processor; telephone, and modem (modulator-demodulator)--and their applications are explained for educators in this digest. Emphasis is on the characteristics and capabilities of: (1) electronic mail, which allows the transmission and reception of messages in a fast and efficient manner; (2) electronic bulletin boards, an array of information that can be accessed via the computer; and (3) computer conferencing, which allows meetings via the computer. Features discussed include interactivity, menus, ease of use, and convenience. The cost of joining an electronic network is briefly addressed and the advantages of using such a network are discussed and illustrated with examples of specific networks oriented toward education. Sixteen references are listed. (LMM)

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ERIC DIGEST

ELECTRONIC NETWORKS

What is an electronic network?

An electronic network is a system that facilitates the delivery of information (communication) using a computer and a telephone. The three most common forms of networking used by educators are electronic mail, electronic bulletin boards, and computer conferencing. Electronic mail allows the user to transmit and receive messages in a fast and efficient manner. An electronic bulletin board is an array of information, usually dealing with a particular subject, that can be accessed via the computer. Educators can meet via the computer to discuss topics of concern or to react to pertinent educational issues using computer conferencing.

How does it work?

Three devices are necessary to access an electronic network: (1) computer (terminal, microcomputer, or communications word processor); (2) telephone; and (3) modem (modulator-demodulator). The modem is the communications device between the computer and the telephone. It converts computer information into telephone signals and vice-versa. The computer is then tied into an information utility (known as the "host" computer) which stores the information on powerful mainframe or minicomputer systems. The SOURCE and CompuServe are two examples of utilities commonly used by educators to store information and facilitate electronic networking. Each user is given a unique number account and password that permits access to the network.

What are some of the features of electronic networking?

Most electronic networks include a variety of features that can help users to retrieve information and to share experiences, concerns, and ideas on topics pertinent to education, business, news, and entertainment. A "menu" guides the user to the various components of the network.

Electronic bulletin boards permit users to review statistical data, literature on pertinent topics, upcoming conferences, meetings, seminars, job opportunities, school practices, national resource experts, etc. This information can usually be accessed by typing in a one-word title or single number associated with the topic. The computer screen will then reveal the contents of a specific bulletin board.

The interactive features of the electronic network have been found to be most successful by network users. These include electronic mail and computer conferencing. Electronic mail permits users to send messages to others on the system. The length of the message can vary from one or two words to several pages; and messages can be sent to one individual, a group of individuals, or all network users. The messages are typed using the computer keyboard while online (some computers allow the preparation and storage of materials while off-line to economize on connect time), and then stored in the recipient's "mailbox" until they are requested. Of course, the recipient must also have an account on the network. After reading the message, the recipient may file it, respond to it, delete it, or ignore it.

Computer conferencing permits each participant in a meeting to attend at a time convenient for that individual. The meeting agenda, report, or items of concern are typed and stored in the computer. As participants tie into the network and subsequently the conference, using commands similar to those for accessing a bulletin board, the comments of preceding participants are read and each succeeding participant may respond to the issues at hand or the comments of preceding attendees. These conferences can be held over a period of several hours or several days depending upon the purpose and need of the "conference sponsor."

Electronic networks are easy to use. A user's manual is often provided for the new account holder; however, directions to follow are usually presented while online and "help" files can be "called up" at any time while using the network.

Convenience is an important advantage. Messages can be transmitted at any time. When an inquiry is made via electronic mail, the user has time to think about a response whereas a telephone call may not offer this flexibility.

What is the cost of joining an electronic network?

The costs vary from one source to another. The costs of the networks presented mentioned below range from no charge to $1,175 annually. In most instances the initial fee is minimal, given the resources that are available as a result of joining the network. Connect time or online charges (the hourly cost of using the host computer while processing information) are not usually included in the initial fees. Online charges can range from $5 per hour to $25 or more depending on the type of information requested. In some instances, long distance charges may be accrued if the host computer does not have a local telephone number in a particular city. Using cost saving long distance services such as Telenet or Tymnet can reduce direct dialing charges when local numbers are not provided. Some utilities also offer WATS numbers.

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What are the advantages for educators and decision makers?

Often the information we need as educators is not found in periodicals or texts, but in the minds of other educators who have experienced our frustrations or can explain a new development. Electronic networking provides immediate access to those individuals, many of whom have access to these services. Local networking has been used to provide training for teachers in local school districts without staff leaving their own environments. Information, particularly regarding the use of technology, changes rapidly. Electronic mail systems provide current information in a timely and efficient manner.

Most networks tend to be content-specific or targeted at a particular audience. ChieFFile, for example, is the network developed and used by the Chief State School Officers in the 50 states and U. S. territories, who need immediate access to national news and legislative issues. SpecialNet is targeted at special educators and others interested and working in the area of special education. DeafNet-DCI is devoted to the hearing impaired population. TechNet focuses on the applications of technology and communications in education and is intended for use by educators and others interested in the use of the information technologies for education and training. Many networks have also been established by state departments of education and school board associations to meet the needs of educators in a particular state, e.g., Penn-Link in Pennsylvania, Electro-lert in Alabama, and WIS/NET in Wisconsin. Several of these educational networks are made possible by Edline, formerly EdNet, the electronic news and information network established by the National School Public Relations Association, which serves as the umbrella for PennLink, TechNet, ChiefFile and a host of others.

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